

**COMPUTATIONALLY EFFICIENT MEANS FOR OPTIMAL  
CONTROL WITH CONTROL CONSTRAINTS**

**ABSTRACT**

A system and method reduces undesired noise or vibration in a vehicle. The ambient vibration is measured and command signals are generated over time. The command signals are generated based upon the measured vibration and based upon a control weighting. By varying the control weighting over time, the maximum possible performance is always obtained subject to the saturation constraints.